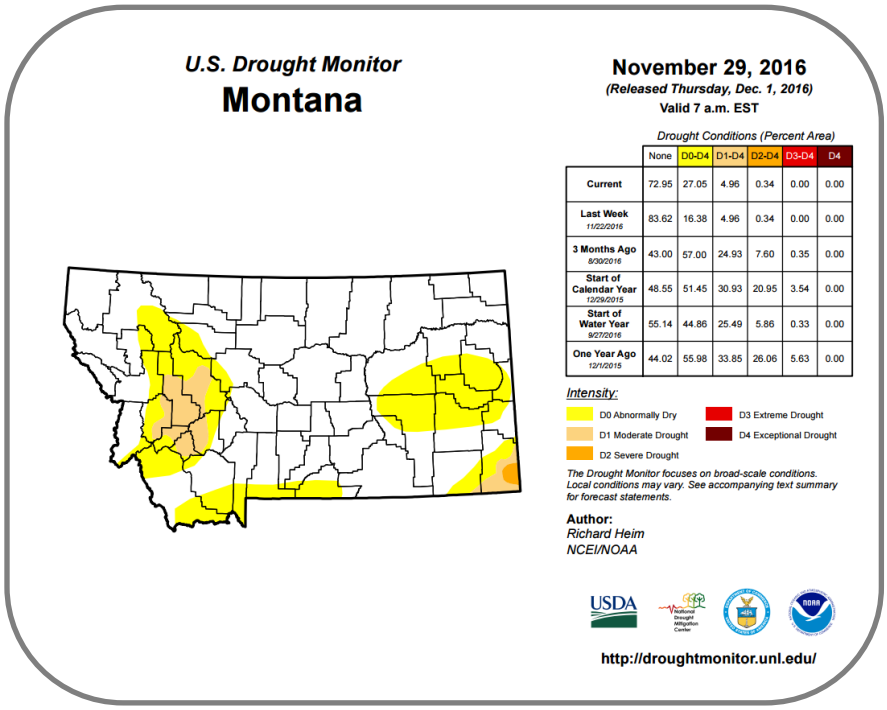
Montana — *Current Drought Conditions*



The U.S. Drought Monitor, is a weekly map of drought conditions produced jointly by the National Oceanic and Atmospheric Administration, the U.S. Department of Agriculture, and the National Drought Mitigation Center (NDMC) at the University of Nebraska-Lincoln. The U.S. Drought Monitor website is hosted and maintained by the NDMC. http://droughtmonitor.unl.edu

Highlights for the State

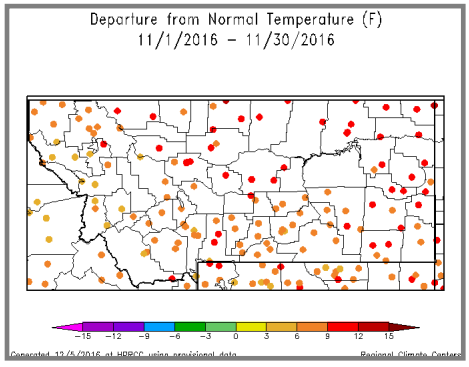
November was warm and dry in contrast to the record wet month of October. Temperatures for November ranged from 3-12° F above normal across the state, with the majority of warmer temperatures being seen in the east. Precipitation was 5-25% of average for the majority of the state. Precipitation averages for the month of November raised concern in Ravalli, Powell, Deer Lodge and southern Lewis & Clark, as well as Rosebud, Custer, Prairie, Dawson, McCone, and Garfield Counties where low flows this past summer caused impacts to soil moisture, groundwater springs, and water for grazing cattle.

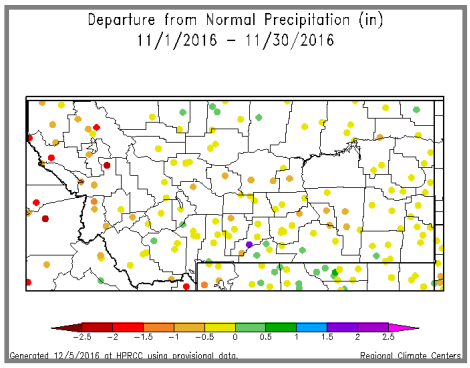
October's record rainfall offset much of November's higher temperatures and lower precipitation. The US Drought Monitor, however, did add an area of D0 drought intensity in the central eastern part of the state. This rating indicates short-term dryness that could lead to impacts to crop growth, range water availability, and low soil moisture conditions.

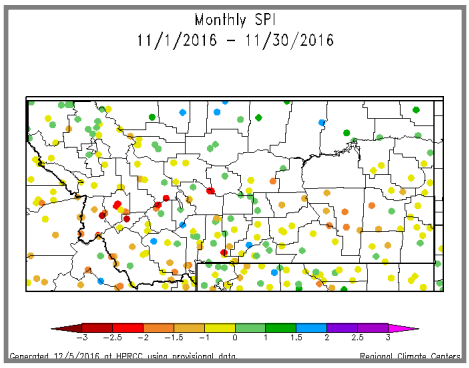
Just as a reminder from last month, the USDA added eleven counties in early October to those under a natural disaster designation due to recent drought. (Read more here: http://www.fsa.usda.gov/news-room/emergency-designations/2016/ed_2016_1006_rel_0142) Producers eligible are able to apply for Livestock Forage Disaster loans (LFPs) until Jan. 30, 2017 (Read more here: https://www.fsa.usda.gov/Assets/USDA-FSA-Public/usdafiles/State-Offices/Montana/newsletters/3000201612.pdf)

Montana — *Climate Overview for Last 60 Days*

Temperature and Precipitation Anomalies







Temperatures over the 30-day period from November 1 to November 30 were elevated across Montana with much of the state being within 6-12°F of normal.

Precipitation across the state was within the normal range. However, some areas in the northwest were –2.5 to –1 inches below normal. On the other hand, southern Stillwater County saw precipitation of 1.5 to 2 inches above normal. The Standard Precipitation Index (SPI) allows analysts to determine how likely drought is to occur in a given amount of time. While the 12-month and 3-month SPI for Montana indicate some concern for drought in the southwest part of the state, the one-month SPI shows the potential for concern along the west and east central areas of the state. Taken alone, November appears to indicate drought in these areas, however, the preceding month of unusual precipitation served to offset that potential. All of these areas, the southwest, west central, and east central parts of the state should remain closely monitored through the coming months.

Montana — *Drought Indicators*

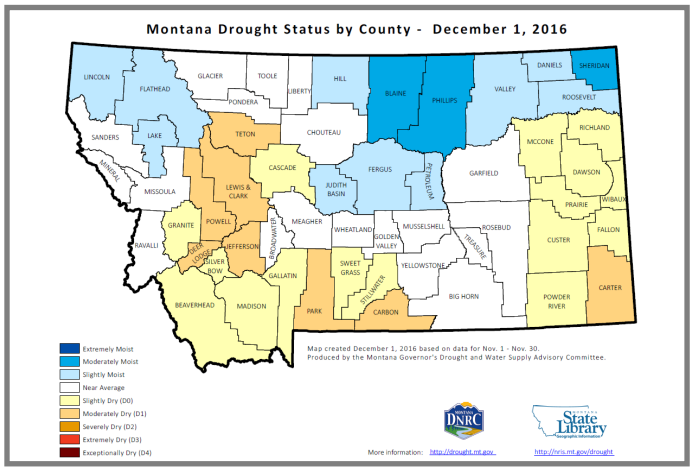
The Montana Drought Status by County is a monthly assessment tool used to monitor the moisture at a county level for the state. Temperature, precipitation, snowpack, reservoirs status, surface water gages, groundwater, crop reports, and field reports are compiled to create this map. To see a historical record go here: https://mslservices.mt.gov/Geographic_Information/Maps/drought/

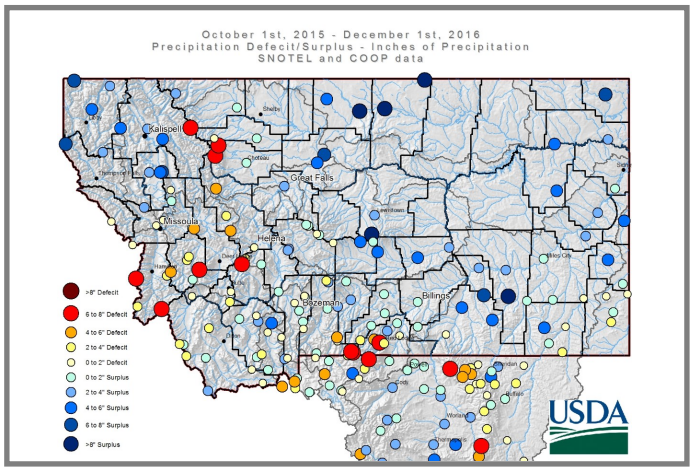
Do you have impacts to report? We need your on-the-ground reports and you can send them to ada.montague@mt.gov

Water Resources

Reservoirs statewide are a mix with most at or above average. The exceptions include Nevada Creek in the Upper Clark Fork (64% of average), Martinsdale (64% of average), Pishkun (23% of average), Swift Reservoir (61%), Lake Frances (66%), and Nelson (32%). Streamflows throughout the state are mostly normal for this time of year with a few scattered exceptions including the Clark Fork at Turah, the Gallatin at Logan, and the Upper Missouri at Toston.

The map below shows how much of a deficit or surplus areas are facing in terms of inches of precipitation in comparison to normal.





Montana — *Short– and Long-term Outlooks*

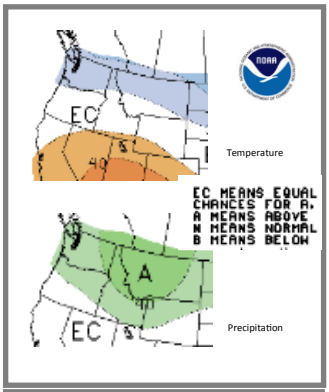
Weather and Climate Outlooks

For the next month there is a 60% chance of below average temperatures and a 40% chance of above average precipitation.

Looking further out, the Jan-Mar period holds a 33% chance for below-normal temperature for all but the southern half of the state, where there are equal chances of above and below average temperatures. On the other hand, the Western 2/3 of the state has a 40% chance of elevated precipitation, and the eastern 1/3 has a 33% chance of elevated precipitation.

Although there is less certainty when looking at beyond the next three months, the pattern is expected to shift to equal chances for above, normal or below temperature and precipitation.

Drought conditions are expected to improve, but should remain closely monitored in 2017 to ensure the lingering effects of the last two years do not persist.



Need a Forecast?

Visit your local National Weather Service Weather Forecast Office for the most up-to-date forecast at: http://www.weather.gov

Stay Tuned and In Touch

The next Montana Drought Impacts and Outlook Summary will be released around December 5th. If you need information in the meantime, please reach out to any of the partners listed to the right or contact Ada Montague directly at amontague@mt.gov.

Read the Montana Weather/Precipitation Summary for October 2016 at: www.wrh.noaa.gov/tfx/climate/droughtsum/pdfs/montanawx_2016_10.pdf

Summary of Conditions

Temperatures for the month of November were elevated for the entire state of Montana.

Precipitation for November was below average, but the impacts of low precipitation levels was offset by the record-breaking rainfall of October. The exception was the east central part of the state which did see a slight degradation in wetness to a D0 level on the US Drought Monitor.

Partners

Montana State Climate Office
www.climate.umt.edu
National Weather Service
Great Falls Weather Forecast Office
www.wrh.noaa.gov/tfx/
Missoula Weather Forecast Office
www.wrh.noaa.gov/mso/
Billings Weather Forecast Office
www.wrh.noaa.gov/byz/
Natural Resource Conservation Service, Snow Survey and Water Supply Forecasting
www.nrcs.usda.gov/wps/portal/nrcs/main/mt/snow/
Montana Bureau of Mines and Geology
data.mbmg.mtech.edu/mapper/
Montana State Library
mslservices.mt.gov
United States Geologic Survey
http://wy-mt.water.usgs.gov/
Bureau of Reclamation, AGRImet
www.usbr.gov/pn/agrimet/h2ouse.html
National Agricultural Statistics Service
www.nass.usda.gov/Statistics_by_State/Montana/